$$\lim_{x\to\infty}\left[\sqrt[3]{x^2(2-x)}+x\right]=(-\infty+\infty)=$$ ROZŠÍŘIT

$$=\lim_{x\to\infty}\left(\sqrt[3]{x^2(2-x)}+x\right)\cdot\frac{\left[x^2(2-x)\right]^{\frac{2}{3}}-\left[x^2(2-x)\right]^{\frac{1}{3}}\cdot x+x^2}{\left[x^2(2-x)\right]^{\frac{2}{3}}-\left[x^2(2-x)\right]^{\frac{1}{3}}\cdot x+x^2}=$$

POZNÁMKA: $\left((a+b)\cdot\left(\frac{a^2-ab+b^2}{a^2-ab+b^2}\right)=\frac{a^3+b^3}{a^2-ab+b^2}\right)$ ← VZOREC

$$=\lim_{x\to\infty}\frac{x^2(2-x)+x^3}{\left[x^2(2-x)\right]^{\frac{2}{3}}-\left[x^2(2-x)\right]^{\frac{1}{3}}\cdot x+x^2}=$$

VYTKNEME x^2

$$=\lim_{x\to\infty}\frac{2x^2-\cancel{x^3}+\cancel{x^3}}{x^2\left[\left(\frac{2}{x}-1\right)^{\frac{2}{3}}-\left(\frac{2}{x}-1\right)^{\frac{1}{3}}+1\right]}=$$

$$=\lim_{x\to\infty}\frac{2\cancel{x^2}}{\cancel{x^2}}\cdot\frac{1}{\left(\underbrace{\frac{2}{x}}_{0}-1\right)^{\frac{2}{3}}-\left(\underbrace{\frac{2}{x}}_{0}-1\right)^{\frac{1}{3}}+1}=$$

POUŽITÝ VZOREC

$$=\frac{2}{(-1)^2+1+1}=\underline{\underline{\frac{2}{3}}}$$

$$\boxed{(a+b)(a^2-ab+b^2)=a^3+b^3}$$

$$\lim_{x\to-\infty}\left[\sqrt[3]{x^2(2-x)}+x\right]=(\infty-\infty)$$ ..... STEJNÝ POSTUP